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PART IV.

Miscellaneous Papers.

DIRECTIONS HOW TO USE THE ENGLISH PLOUGH.

To keep the Plough in working order.

I. On receipt of the plough, notice carefully how the share (gula) is fixed on. It will be found tight and in a line with all the parts it touches.

II. If the share becomes at all loose when working, it should be tightened *at once.*

III. When the share has worn to two-thirds of its original size, it must be replaced by a new one. It is not intended to be mended, and ploughing will become too hard for the cattle if pieces of iron are patched on for the purpose.

IV. If the share becomes bent, it must be taken off the plough to be straightened.

V. The spare share sent with the plough should be kept as a pattern, and others made like it for use, by a blacksmith.

VI. A new share so made must be fitted to the plough, not the plough altered to fit the share.

VII. The wheel should have its axle greased frequently.

VIII. The unpainted parts of the plough should be greased over when the plough is not likely to be used for some time.

IX. The plough should be moved from field to field on its wheel, no other part touching the ground.

To set the Plough.

(*a.*) For dry land, or wet land when not puddled.

I. Raise the wheel and fix it the depth the plough is required to go, but do not fix it to plough deeper than the land is soft.

II. When ploughing, be careful the plough touches the bottom of the furrow at its *whole length* and that it is not the point *only* that is in the ground.

III. Use the wheel whenever it does not clog with mud, as it makes the plough lighter for the cattle to draw and easier for the ploughman to guide.

(*b.*) For wet land when reduced to puddle.

IV. Take off the wheel and its fixings and set the plough to go deep or light as required, by putting the peg that fixes the bridle in front, into a higher or lower hole as may be found suitable. The peg if placed in a lower hole will prevent the plough going too deep; if placed in a higher hole it will tend to sink the point.

To train men and cattle to work the Plough.

I. Under the most favorable conditions, the English plough should plough a furrow 8 inches deep by 10 inches wide, but until the ploughmen and the cattle have been using the plough for some months, this sized furrow should not be attempted.

II. On first trying the plough, the wheel should be raised above the surface of the ground and fixed so that the plough will not penetrate the ground more than three inches.

III. Only land that is soft, either from a recent fall of rain or from a previous ploughing, should be at first attempted.

IV. One man should hold the plough handles and guide the plough, while the second guides the cattle.

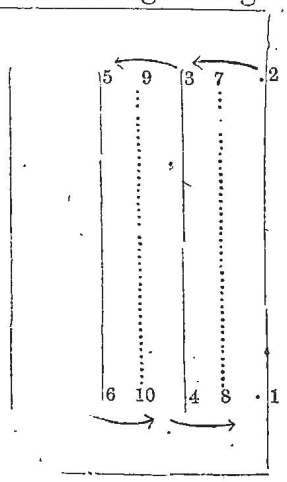
V. The cattle should be driven *very slowly* and not frightened.

VI. As only one man is required to drive both plough and cattle when the ploughman understands the use of the plough, and the cattle are accustomed to pull it, the latter must be taught to be guided by means of two ropes, an end of one rope fastened to the nose rope of one bullock and the other to the nose rope of the second. The other ends of the ropes held with the plough-handles must be in the hands of the ploughman. One rope to each bullock is sufficient.

To plough a field with the English Plough.

I. First set the plough only deep enough to make a mark, say 1½ inches or 2 inches deep.

II. Plough straight lines from 1 to 2, 3 to 4 and 5 to 6 and so on until the whole field is marked out. The marks to be ploughed straight, equi-distant, and not less than 5 or over 10 yards apart.

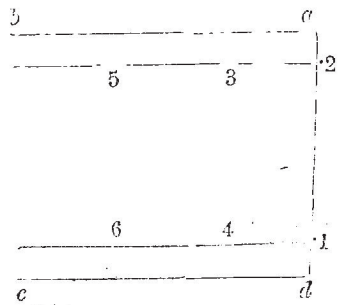


Next re-set the plough to plough as deep as it is intended to plough the whole field.

Now commence at 1 and plough to 2. Turn the plough on its left side when 2 is reached, and do not plough round. Re-commence ploughing at 3 and plough to 4. Turn the plough on its side again when 4 is reached, and return to 1. Then plough furrow after furrow up and down from 1 to 2 and from 3 to 4 until the whole is finished. When this first piece is ploughed, commence a second at 4 and plough to 3 and plough out the piece between 3 and 5 and 6 and 4 in the same way as the first piece; and so on all until the field is finished.

The reason for the first marking out a field and then finishing it piece by piece is that the first furrow is much harder to plough than the others, and it is easier to make the bullocks walk straight if the marking out is shallow than if deep.

III. When the whole of the pieces up and down the field are finished, there will remain the ends where the plough and bullocks were turned unploughed.



To plough these, begin first at one corner (*a*) and plough to (*b*.)

Then come down the field as far as is necessary which will be about 2 yards, and plough straight through 5 and 3 to 2. Turn to the left and continue until the head land is finished.

Plough the other end of the field in the same way.

To keep a field level.

I. When the field has been ploughed as described, it is evident open furrows will remain where each piece was finished, *viz.*, between 7 and 8, and between 9 and 10. If at any future time the field is ploughed in the same direction, these furrows will become deeper, until at length the land assumes this shape:

II. To avoid this. The second time a field is ploughed in the same direction, the ploughman should begin at 8, plough to 7, and turn sharp round to the right (instead of as usual to the left) and plough back to 8, so as to gather the earth into the low furrow, and keep on turning to the right until the piece is finished with open furrows from 4 to 3 and 2 to 1.

The land will then assume the same level it had before it was touched.

To sub-soil Plough.

I. This means to disturb the land below where the plough usually penetrates.

II. To sub-soil plough. Plough a deep furrow with the English plough and along this plough with a native plough as deeply as possible, which will stir soil to a foot deep without bringing it to the surface.

Do this furrow by furrow, the native plough closely following the English, until the field is finished.

III. If this be tried, it will be found of great advantage in deep clay lands or red soils, and will much increase the crop, especially in a dry season.

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